

PCT

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/CA2004/000444

International filing date (day/month/year)
29.03.2004

Priority date (day/month/year)
28.03.2003

International Patent Classification (IPC) or both national classification and IPC
F41H5/04, F41H1/04

Applicant
MED-ENG SYSTEM INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

10/550922
International application No.
PCT/CA2004/000444

JC12 Rec'd PCT/PTC 28 SEP 2005

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
- ☒ claims Nos. 115, 116, 131-143

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the whole application or for said claims Nos. 115, 116, 131-143
- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
 - the written form ☐ has not been furnished
 - ☐ does not comply with the standard
 - the computer readable form ☐ has not been furnished
 - ☐ does not comply with the standard
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.
- ☐ See separate sheet for further details

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:
- ☒ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☐ not paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☐ all parts.
 - ☒ the parts relating to claims Nos. 1-114,117-130,144-151

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2- 25, 33,34,41-46,62-73,78-86,90,101,102,128-130,146-148
	No: Claims	1, 26-32,35- 40,47- 61,74- 77,87-89,91-100,103-114,117-127,144,145,149-151
Inventive step (IS)	Yes: Claims	
	No: Claims	1-114,117-130,144-151
Industrial applicability (IA)	Yes: Claims	1-114,117-130,144-151
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item III.

The applicant did not pay additional search fees for claims 115, 116 and 131 - 143.
Consequently these claims have not been searched.

Re Item IV.

The separate groups of claims are:

Group 1: claims 1-25,47-61

A head protection system comprising a helmet shell, mounting means for pivotally mounting a visor, retaining means for retaining said visor and a visor comprising a layer of transparent material and at least one layer of ballistic resistant material.

Group 2: claims 26-46,99

A helmet comprising a shell and mounting means for pivotally mounting a shield member to said shell and a locking system.

Group 3: claims 62-73,144,149-151

A helmet comprising a shell and strap means.

Group 4: claims 74-79,87-90,100-114

A helmet comprising a shell, an electrically powered system and a power controller.

Group 5: claims 80-86

A helmet comprising a shell, a visor, a moisture reducing means treatment on the surface thereof and electrically powered means for providing ventilation.

Group 6: claims 91-98

A helmet comprising a shell, a shield member, coupling means and shock absorption means.

Group 7: claims 115-116

A protective helmet having a side portion which covers the ear of the user and a microphone positioned on said side portion.

Group 8: claims 117-130

A head protector comprising a helmet shell having a head cavity, a liner, at least one retainer and a packing member.

Group 9: claims 131-143

A head protector comprising a helmet shell and a shield and coupling means for slidingly engaging and disengaging the shield to and from the helmet.

Group 10: claims 145-148

A protective system comprising a helmet and a plurality of visors.

They are not so linked as to form a single general inventive concept (Rule 13.1 PCT) for the following reasons:

The definitions of the different groups of claimed inventions are only intended to identify said inventions in a concise manner. They may well, as such, comprise terms or generalisations which, upon a close analysis could be found to extend the defined subject matter beyond the contents of the application as filed.

Document DE 32 44 152 A (D1), discloses a head protection system comprising a helmet shell, mounting means on the shell for pivotally mounting a visor thereto to permit the visor to be moved between raised and lowered positions, retaining means for releasably retaining a visor on the mounting means, and a visor being adapted for mounting on said mounting means and comprising a construction such that it has a certain ballistic resistance against projectiles.

The special technical features, as defined in Rule 13.2 PCT, of the first group of claims, which are intended to be a contribution over this prior art, i.e. the features pertaining to the MIL-STD and the materials of the visor apparently solve the problem of the ballistic resistance of the visor.

The special technical features, as defined in Rule 13.2 PCT, of the second group of claims, which are intended to be a contribution over said prior art, i.e. the features pertaining to a locking system apparently solve the problem of locking the visor.

The special technical features, as defined in Rule 13.2 PCT, of the third group of claims, which are intended to be a contribution over said prior art, i.e. the features pertaining to the various strap means apparently solve the problem of providing a reliable fastening of the helmet.

The special technical features, as defined in Rule 13.2 PCT, of the fourth group of claims, which are intended to be a contribution over said prior art, i.e. the features pertaining to an electrically powered system and a power controller apparently solve the problem of providing devices in or on said helmet controllable with electric power.

The special technical features, as defined in Rule 13.2 PCT, of the fifth group of claims, which are intended to be a contribution over said prior art, i.e. the features pertaining to a moisture reducing means and electrically powered ventilation means apparently solve the problem of reducing the discomfort to the wearer of the helmet due to moisture.

The special technical features, as defined in Rule 13.2 PCT, of the sixth group of claims, which are intended to be a contribution over said prior art, i.e. the features pertaining to shock absorption means apparently solve the problem of absorbing shocks.

The special technical features, as defined in Rule 13.2 PCT, of the seventh group of claims, which are intended to be a contribution over said prior art, i.e. the features pertaining to an ear cover and a microphone apparently solve the problem of communication between the wearer of the helmet and the outside world.

The special technical features, as defined in Rule 13.2 PCT, of the eighth group of claims, which are intended to be a contribution over said prior art, i.e. the features pertaining to a helmet liner solve the problem of wearing the helmet comfortably.

The special technical features, as defined in Rule 13.2 PCT, of the ninth group of claims, which are intended to be a contribution over said prior art, i.e. the features pertaining to sliding coupling means apparently solve the problem of easy mounting and dismounting of the visor on/from the helmet.

The special technical features, as defined in Rule 13.2 PCT, of the tenth group of claims, which are intended to be a contribution over said prior art, i.e. the features pertaining to a plurality of visors apparently solve the problem of interchangeability of visors.

No same or similar special technical features can be determined and different underlying problems are solved. Moreover, it is clear that the 10 groups of claims can be applied independently of each other, i.e. they are not necessarily inter-related.

It appears therefore, that no technical relationship between the various groups of claims exists involving one or more of the same or corresponding special technical features, beside the common and already well known feature of a helmet having a visor/shield, see D1. The ten groups of claims are thus not so linked as to form a single general inventive concept. Indeed, the applicant appears to share this view, since every one of the 25 independent device claims and the single independent method claim is referred to in the description as "another aspect".

Re Item V.

For clarity reasons, the groups of subject matter identified hereinbefore are discussed in sub-sections of this section as follows:

- A** In respect of group 1: Claims 1 - 25, 47 - 61
- B** In respect of group 2: claims 26 - 46, 99.
- C** In respect of group 3: claims 62 - 73, 144, 149 - 151.
- D** In respect of group 4: claims 74 - 79, 87 - 90, 100 - 114.
- E** In respect of group 5: claims 80 - 86.
- F** In respect of group 6: claims 91 - 98.
- G** In respect of group 8: claims 117 - 130.
- H** In respect of group 10: claims 145 - 148.

The following documents are referred to in this communication:

D1 : DE 32 44 152 A	D13 : GB 1 018 928 A	D25 : US 6 101 916 A
D2 : DE 86 33 539 U	D14 : US 2 867 812 A	D26 : DE 200 349 C
D3 : US 3 573 150 A	D15 : WO 95 10955 A	D27 : US 5 765 235 A
D4 : US 4 817 596 A	D16 : FR 2 716 348 A	D28 : US 4 498 202 A
D5 : US 3 495 273 A	D17 : US 4 326 303 A	D29 : US 3 082 427 A
D6 : US 6 012 178 A	D18 : EP 1 069 370 A	D30 : US 2 184 043 A
D7 : US 5 747 159 A	D19 : DE 729 240 C	D31 : US 4 023 210 A
D8 : US 3 636 565 A	D20 : US 5 357 409 A	D32 : US 6 298 498 B1
D9 : EP 0 294 676 A	D21 : EP 0 818 156 A	D33 : US 6 438 763 B2
D10: US 4 475 248 A	D22 : GB 2 370 972 A	D34 : FR 2 759 869 A
D11: US 4 546 489 A	D23 : US 4 047 249 A	
D12: DE 85 14 219 U	D24 : EP 0 412 205 A	

A In respect of group 1: Claims 1 - 25, 47 - 61

A1. The application does not meet the requirements of Article 6 PCT.

A1.1 The independent claim 1 is not clear since the subject matter of independent claim 1 is formulated as a result to be achieved, without any indication how this result should be achieved, i.e. no technical features of the construction of the visor are provided.

A1.2 Although device claims 1, 2, 47 and 51 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and/or in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.

A1.3 The independent claims 47, 51 and 57 with their appended dependent claims comprise the vague and undefined feature "high performance material" without identification of this material. Consequently these claims are not clear.

A2 Independent claim 1

A2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses:

A head protection system comprising:

- a helmet shell,
- mounting means on the shell for pivotally mounting a visor thereto to permit the visor to be moved between raised and lowered positions,
- retaining means for releasably retaining a visor on the mounting means, and
- a visor being adapted for mounting means and comprising a construction such that at least a portion of the visor has a ballistic resistance to resist 9 mm parabellum bullet (standard 9 x 19 mm cartridge) fired from an UZI SMG or a .357 Magn. bullet fired from a Colt Trooper revolver.

A2.2 Although these values are not expressed as MIL STD, it is evident for the man skilled in the art, that these values are at least equivalent. In particular the identical multi-layer construction, acrylic and polycarbonate, support this objection.

A2.3 The present application therefore does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

A3. Independent claim 2

A3.1 Document D1 discloses:

A head protection system comprising:

- a helmet shell,
- mounting means on the shell for pivotally mounting a visor thereto to permit the visor to be moved between raised and lowered positions,
- retaining means for releasably retaining a visor on the mounting means, and
- a visor being adapted for mounting means and comprising a layer of transparent material and a layer of ballistic resistant material.

A3.2 The subject matter of independent claim 2 differs from D1 in that the layer of ballistic resistant material consists of a plurality of layers.

A3.3 The object to be achieved by using a plurality of layers is to improve the anti-ballistic capability.

A3.4 It is, however already known in the field of transparent ballistic shields ("windows") for helmets to use more than one layer, as shown in D3, in particular column 6, line 8. It is obvious to the man skilled in the art of transparent ballistic protection to use the multi layered protection according to D3 in a head protection system according to D1, in order to improve the anti-ballistic capability.

Consequently the subject matter of independent claim does not involve an inventive step as required by Article 33(3) PCT.

A4. Dependent claims 3 - 25 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, the reasons being as follows:

The features of dependent claims 2 - 14, 16 -18 and 24 are suggested by the combination of D1 and D3.

The features of dependent claim 15 are known from D4.

The features of dependent claims 19 - 23 are known from D5.

The features of dependent claim 25 are known from D6.

A5. Independent claim 47

A5.1 Document D7 describes a protective armour comprising a layer of plastic transparent material, a plurality of layers of high performance material, said layers being bonded together to form a laminate, and securing means for securing said laminate to said layer of plastic transparent material.

A5.2 The present application therefore does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 47 is not new in the sense of Article 33(2) PCT.

A6. Dependent claims 48 - 50 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, because the features of dependent claims 48 - 50 are known from or suggested by D7.

A7. Independent claim 51

A7.1 Document D3 describes a visor ("window") for a helmet comprising a layer of plastic transparent material, a plurality of layers of high performance material, said layers being bonded together to form a laminate and securing means for securing said laminate to a portion of the surface of said plastic transparent material.

A7.2 The present application therefore does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 51 is not new in the sense of Article 33(2) PCT.

A8. Dependent claims 52 - 56 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, because the features of dependent claims 52 - 56 are known from D3 or suggested by a combination of D3 and D7.

A9. Independent method claim 57.

A9.1 Document D7 describes a process for forming protective armour comprising the steps of providing a layer of plastic transparent material, forming a laminate comprising a plurality of layers of high performance material and securing said laminate to said layer of plastic transparent material.

A9.2 The present application therefore does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 57 is not new in the sense of Article 33(2) PCT.

A10. Dependent claims 58 - 61 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, because the features of dependent claims 58 - 61 are known from D7 or suggested by a combination of D3 and D7.

B In respect of group 2: claims 26 - 46, 99.

B1. The application does not meet the requirements of Article 6 PCT.

B1.1 Although device claims 26 and 99 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and/or in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.

B2. Independent claim 26

B2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 26 is not new in the sense of Article 33(2) PCT.

B2.2 Document D8 describes:

A helmet comprising:

- a shell and mounting means for pivotally mounting a shield member to said shell for movement between a first position and a second position relative to

said shell,

and

- a locking system for locking said shield member in at least one of said first and second positions, and comprising:

- a lock for preventing movement of said shield member relative to said shell

and

- a manually accessible depressible member adapted to release said lock on depression thereof,

thereby allowing said shield member to move from the respective first and second position.

B2.3 The present application therefore does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 26 is not new in the sense of Article 33(2) PCT.

B3. Dependent claims 27 - 46 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, the reasons being as follows:

The features of dependent claims 27 - 32 and 35 - 40 are known from D8.

The features of dependent claims 33, 34 and 41 - 43 are known from D9.

The features of dependent claim 44 - 46 are obvious in the field of helmets as illustrated by several documents cited in the search report, such as for example D10.

B4. Independent claim 99.

B4.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 99 is not new in the sense of Article 33(2) PCT.

B4.2 Document D11 describes

A helmet comprising:

- a shell and a shield member coupled to said shell for movement between a first position and a second position relative to said shell,

and

- a locking system for locking said shield member in at least one of said first

and second positions, and comprising:

- a rotary cam (8) mounted on said shell,
- an aperture (16) formed in an element (5) of said helmet, and
- an opening (16a) in the side of said aperture for receiving said cam into said aperture,

said aperture permitting rotation of said cam when located in said aperture to a position which prevents movement of said cam from said aperture through said opening.

It is implicitly derivable from this document, that the element (5) on the helmet of D11 could also be the visor itself, instead of the visor being mounted on an axle (11/12) on the rotary cam.

B4.3 The present application therefore does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 99 is not new in the sense of Article 33(2) PCT.

C In respect of group 3: claims 62 - 73, 144, 149 - 151.

C1. The application does not meet the requirements of Article 6 PCT.

C2. Although device claims 62, 69, 144, 149, 150 and 151 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and/or in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.

C3. Independent claim 62

C3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 62 does not involve an inventive step in the sense of Article 33(3) PCT.

C3.2 Document D12 describes

A helmet comprising:

- a shell,
- a strap guide mounted on each side of the helmet in a position for supporting a strap for passing under the chin of a wearer, when in use,
- a strap which passes through and between each strap guide such that the portion of said strap between said strap guides form a chin strap, and
- a support member coupled to the rear of said shell to allow relative movement between said support member and said shell and for engaging a portion of the head or neck of the wearer, when in use, said strap extending from each strap guide to said support member.

C3.3 The subject matter of independent claim 62 differs from D12 by the provision of a pull member extending from a position between said support member and said strap guides and which is arranged to cause the length of said strap extending from said support member through said strap guides to shorten when said pull member is pulled.

C3.4 The problem to be solved by the man skilled in the art is to provide a system for a helmet according to D12, which can be quickly and easily adjusted.

C3.5 This problem has already been solved in the field of helmet strap systems, as for example illustrated in D13, where a pull member for shortening the strap is described.

The inclusion of the strap system according to D13 in a helmet according to D12 is considered to be obvious to the man skilled in the art of helmet strap systems, since it solves the problem formulated above.

C3.6 The present application therefore does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 62 does not involve an inventive step in the sense of Article 33(3) PCT.

C3.7 Dependent claims 63 - 68 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, because the features of these dependent claims are known from or suggested by the combination of D12 and D13.

C4. Independent claim 69

C4.1 Since independent claim 69 essentially pertains to the same subject matter as independent claim 62 and comprises all features of independent claim 62, the same reasoning as for independent claim 62 applies to independent claim 69 as well.

Consequently, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 69 does not involve an inventive step in the sense of Article 33(3) PCT.

C4.2 Dependent claims 70 - 73 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, because the features of these dependent claims are known from or suggested by the combination of D12 and D13.

C5. Independent claim 144.

C5.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 144 is not new in the sense of Article 33(2) PCT.

C5.2 Document D14 describes:

A head protector comprising a helmet and a retainer for retaining the helmet on the head of a wearer wherein the retainer includes means extending from the helmet for supporting a connector (30) on either side of the helmet, each connector being adapted to releasably and interchangeably connect one of a "chin cup" (10) and an under-the-jaw strap.

It is clearly derivable from this document, that the "chin cup" can be fastened/released both on the left hand and on the right hand side of the helmet.

C5.3 Consequently, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 144 is not new in the sense of Article 33(2) PCT.

C6. Independent claim 149.

C6.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 149 is not new in the sense of Article 33(2) PCT.

C6.2 Document D15 describes:

A helmet having a retainer including a nape support, the nape support being connected to the helmet by first and second strap means which extend at an angle and transversely from a common region of the nape.

The subject matter of independent claim 149 is furthermore also known from D16.

C6.3 Consequently, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 149 is not new in the sense of Article 33(2) PCT.

C7. Independent claim 150.

C7.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 150 is not new in the sense of Article 33(2) PCT.

C7.2 Document D16 describes:

A helmet having a retainer including a nape support and an adjustable strap for tightening the retainer about the head of the wearer, wherein the adjustable strap is connected to extend downwardly, and optionally sideways from the nape support.

C7.3 Consequently, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 150 is ~~not new~~ in the sense of Article 33(2) PCT.

C8. Independent claim 151.

C8.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 151 is not new in the sense of Article 33(2) PCT.

C8.2 Document D17 describes:

A chin cup (26) for a retention system, comprising a chin pad, having an upper portion and a lower portion, and a first strap positioned adjacent said upper portion and a second strap positioned adjacent said lower portion.

C8.3 Consequently, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 151 is not new in the sense of Article 33(2) PCT.

D In respect of group 4: claims 74 - 79, 87 - 90, 100 - 114.

D1. The application does not meet the requirements of Article 6 PCT.

D1.1 Although device claims 74, 87, 100, 102, 103, 104 and 113 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and/or in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.

D2. Independent claim 74.

D2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 74 is not new in the sense of Article 33(2) PCT.

D2.2 Document D18 describes:

A helmet comprising a shell, an electrically powered system for assisting a wearer, and a power controller for controlling the power delivered to said system, wherein said power controller is releasably mounted on said shell.

The subject matter of independent claim 74 is also known from D19 and D20.

D2.3 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 74 is not new in the sense of Article 33(2) PCT.

D2.4 Dependent claims 75 - 79 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, the reasons being as follows:

The features of dependent claims 75 - 77 are known from both D19 and D20.

The features of dependent claim 78 are known from D21.

The features of dependent claim 79 are known from both D22 and D23.

D3. Independent claim 87.

D3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 87 is not new in the sense of Article 33(2) PCT.

D3.2 Document D18 describes:

A control unit for controlling an electrically powered system for a helmet, the control unit having securing means for releasably securing the control unit to a helmet.

The subject matter of independent claim 87 is also known from D19, D20 and D21.

D3.3 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 87 is not new in the sense of Article 33(2) PCT.

D3.4 Dependent claims 88 - 90 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, the reasons being as follows:

The features of dependent claims 88 and 89 are known from D18 and D19.

The features of dependent claim 90 are known from D24.

D4. Independent claim 100.

D4.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 100 is not new in the sense of Article 33(2) PCT.

D4.2 Document D25 describes:

A protective system comprising a protective helmet, at least one electrically operated device (18) mounted to said helmet and a controller (11) for controlling said device from a location remote from said helmet, means for transmitting control signals from said controller to said device, wherein said controller includes fastening means for fastening the controller to a part of a wearer's body so that, in use, the controller is visible to the wearer.

D4.3 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 100 is not new in the sense of Article 33(2) PCT.

D4.4 Dependent claim 101 does not contain any features which, in combination with the features of any claim to which it refers, meet the requirements of the PCT in respect of inventive step, since it is obvious for the man skilled in the art of protective systems for EOD applications, that also the wrist-mounted keyboard (11) could comprise visual feed-back features, like multicoloured LEDs for different keyboard-key functions.

D5. Independent claim 102.

D5.1 Since independent claim 102 essentially pertains to the same subject matter as independent claim 100 and comprises all features of independent claim 100 in combination with dependent claim 101, the same reasoning as given in points D4.2 and D4.4 for the combination of independent claim 100 and dependent claim 101 applies to independent claim 102 as well.

Consequently, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 102 does not involve an inventive step in the sense of Article 33(3) PCT.

D6. Independent claim 103.

D6.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 103 is not new in the sense of Article 33(2) PCT.

D6.2 Document D25 describes:

A protective system comprising a helmet, at least one electrically operated device mounted on said helmet, a monitor for monitoring said device from a location remote from said helmet and means for transmitting signals from said device to said monitor.

Although the external monitor is not mentioned explicitly, it is obvious that such a monitor can be connected to the device, since it is explicitly mentioned, that a camera is present and that the system can be used for a teacher/trainee set-up.

D6.3 Consequently, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 103 is not new in the sense of Article 33(2) PCT.

D7. Independent claim 104.

D7.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 104 is not new in the sense of Article 33(2) PCT.

D7.2 Document D25 describes:

A protective system comprising a helmet, at least one electrically operated device mounted on said helmet, means for at least one of controlling said device and monitoring said device from a location remote from said helmet, means for transmitting signals from at least one of said controller and said device to the other of said controller and said device, and a retainer mounted on the clothing [wrist] of a wearer for retaining said controller.

D7.3 Consequently, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 104 is not new in the sense of Article 33(2) PCT.

D7.4 Dependent claims 105 - 112 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, since the features of dependent claims 105 - 112 are either known from or rendered obvious by the device according to D25.

D8. Independent claim 113.

D8.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 113 is not new in the sense of Article 33(2) PCT.

D8.2 Document D24 describes:

A protective system comprising a helmet, at least one electrically powered device mounted to said helmet and a source of electrical energy mounted to said helmet and arranged to drive said electrically operated device.

Furthermore the subject matter of independent claim 113 is also known from D19, D20, D24 and D26.

D8.3 Consequently, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 113 is not new in the sense of Article 33(2) PCT.

D8.4 Dependent claim 114 does not contain any features which, in combination with the features of any claim to which it refers, meet the requirements of the PCT in respect of novelty, since D24 and D26 disclose an energy source mounted on the rear of a helmet.

E In respect of group 5: claims 80 - 86.

E1. Independent claim 80.

E1.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 80 does not involve an inventive step in the sense of Article 33(3) PCT.

E1.2 Document D27 describes:

A helmet comprising a shell, a visor having a moisture reducing means treatment on the surface thereof facing the interior of the shell.

E1.3 The subject matter of independent claim 80 differs from the device according to D27, in that the helmet further comprises an electrically powered means for

providing ventilation air to the interior of said helmet, said electrically powered means being mounted on said helmet.

E1.4 The problem to be solved is therefore, how can the moisture reducing effect of D27 be improved.

E1.5 It is obvious to the man skilled in the art of visors for helmets, that the moisture build up on the inside of a visor can only partially be absorbed by treatment of the inner visor surface, the amount of moisture being considerably reducible by the use of active ventilation means including a fan.

This is, for example illustrated in D28 and also in D21.

Therefore the inclusion of a fan, as described in D28 or D21 in a helmet according to D27 does not require the exercise of any inventive skill, in particular since the advantages are evident.

E1.6 Consequently, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 80 does not involve an inventive step in the sense of Article 33(2) PCT.

E1.7 Dependent claims 81 - 86 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, since the combination of features of dependent claims 81 - 86 in combination with the features of independent claim 80 are known from or suggested by the combination of D27 and D28.

F In respect of group 6: claims 91 - 98.

F1. Independent claim 91.

F1.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 91 is not new in the sense of Article 33(2) PCT.

F1.2 Document D10 describes:

A helmet comprising a shell, a shield member and coupling means (26 - 36) for coupling the shield member to the shell and permitting movement of said shell member relative to said shell, and shock absorbing means (29) coupled to said coupling means and arranged to permit movement of said shield member relative to said shell independently of said coupling means.

F1.3 Consequently, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 91 is not new in the sense of Article 33(2) PCT.

F1.4 Dependent claims 92 - 98 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, since it is obvious for the man skilled in the art, that a relative movement of a shield member according to D10 must not only be absorbed by cushions 29, but may also not damage any pivot system for said shield member and hence requires implicitly a shock absorbing means on the pivot system, for example by means of resilient members.

G In respect of group 8: claims 117 - 130.

G1. Independent claim 117.

G1.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 117 is not new in the sense of Article 33(2) PCT.

G1.2 Document D29 describes:

A head protector comprising a helmet shell having a head cavity therein, a liner for lining said head cavity, wherein at least one of the liner and the shell includes at least one retainer for slidably receiving a packing member for adjusting the size of the head cavity.

G1.3 Consequently, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 117 is not new in the sense of Article 33(2) PCT.

G1.4 Dependent claims 118 - 130 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, the reasons being as follows:

The features of dependent claims 118 - 127 are known from D29.

The features of dependent claims 128 - 130 are obvious from a combination of D29 and D30.

H In respect of group 10: claims 145 - 148.

H1. Independent claim 145.

H1.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 145 is not new in the sense of Article 33(2) PCT.

H1.2 Document D31 describes:

A protective system comprising a helmet and a plurality of visors which can be interchangeably connected to the helmet and coupling means for coupling each visor to the helmet.

H1.3 Consequently, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 145 is not new in the sense of Article 33(2) PCT.

H1.4 Dependent claim 146 - 148 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, the reasons being as follows:

The features of dependent claim 146 are obvious for the man skilled in the art of protective helmets, not only in view of the combination of D31 and D10, but also in view of the combination of D32 and D33.

The features of dependent claim 147 are known from both D31 and D32.

The features of dependent claim 148 are known from D9 and D34.

General remarks:

1. The independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT.
2. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
3. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the relevant documents is not mentioned in the description, nor are these documents identified therein.